

Appl. No. : **09/454,870**
Filed : **December 3, 1999**

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method aggregating a plurality of data packets on a server computer, the method comprising:

determining a server load of the server computer; and

in response to determining the server load, accumulating the plurality of data packets into an aggregated data packet until a size of the aggregated data packet exceeds a minimum threshold size without exceeding a maximum threshold size, and wherein the minimum threshold size and or the maximum threshold size is related to the server load.

2. Cancelled.

3. (Previously Presented) The method of Claim 1, wherein determining the server load comprises comparing a number of data packets that are overdue to a total number of data packets.

4. (Previously Presented) The method of Claim 1, wherein determining the server load comprises comparing a number of network events processed by a server program that is executing on the server computer due to exceeding a time out threshold to a total number of network events that the server program processes.

5. (Original) The method of Claim 4, wherein the network events are selected from the group comprising: a play command, a pause command, a seek command, a ping command, and a re-send command.

6. (Previously Presented) The method of Claim 1, wherein the server load is based at least in part upon an actual transmission rate between the server computer and a client computer.

7. Cancelled.

8. (Previously Presented) The method of Claim 1, wherein the size of the plurality of data packets are not increased larger than a maximum transmission unit size for any intermediary network device that is in a transmission path between the server computer and a client computer on the network.

9. Cancelled.

10. Cancelled.

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11. (Previously Presented) The method of Claim 1, wherein the minimum threshold size is about 200 bytes and wherein the maximum threshold is about 300 bytes.

12. (Previously Presented) The method of Claim 1, wherein the minimum threshold size is about 700 bytes and wherein the maximum threshold is about 1000 bytes.

13. (Previously Presented) The method of Claim 1, wherein the minimum threshold size is about 1000 bytes and wherein the maximum threshold is about 1350 bytes.

14. Cancelled.

15. (Previously Presented) The method of Claim 1, additionally comprising increasing or decreasing the number of channels that are used to transmit a plurality of streamable data objects.

16. (Previously Presented) The method of Claim 1, additionally comprising either increasing or decreasing a frequency of transmission of the plurality of data packets.

17. (Currently Amended) A server computer for aggregating data packets via a communications network, the server computer comprising:

a data memory operative to store a plurality of data packets; and

a server program stored in a program memory for determining a server load and for, in response to determining the server load, repackaging at least two of the plurality of data packets into a single data packet having a size; and for initiating the transmitting of the data packets to the communications network, wherein single data packet size exceeds a minimum threshold size ~~without exceeding a maximum threshold size~~, and wherein the minimum threshold size ~~or the maximum threshold size~~ is set as a function of the load of the server computer.

18. (Original) The system of Claim 17, wherein the data packets collectively comprise a streamable data object.

19. Cancelled.

20. (Previously Presented) The system of Claim 17, wherein determining the server load comprises comparing a number of data packets that are overdue to a total number of data packets.

21. (Previously Presented) The system of Claim 17, wherein determining the server load comprises comparing a number of network events processed by a server program that is

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executing on the server computer due to exceeding a time out threshold to a total number of network events that the server program processes.

22. (Original) The system of Claim 17, wherein the one or more network events is selected from the group comprising: a play command, a pause command, a seek command, a ping command, and a re-send command.

23. Cancelled.

24. (Previously Presented) The system of Claim 17, additionally comprising, in response to determining the system condition, increasing a number of channels that are used to transmit the plurality of data packets.

25. (Previously Presented) The system of Claim 17, additionally comprising, in response to determining the system conditions, either increasing or decreasing a frequency of transmission of the plurality of data packets.

26. (Previously Presented) A system aggregating a plurality of data packets on a server computer, the system comprising:

means for determining a server load; and

means for in response to determining the server load, accumulating the plurality of data packets into an aggregated data packet until a size of the aggregated data packet exceeds a minimum threshold size ~~without exceeding a maximum threshold size~~, and wherein the size of the minimum threshold size ~~or the maximum threshold size~~ is related to the server load.

27. Cancelled.

28. (Previously Presented) A system for aggregating data packets, the system comprising:

a plurality of data packets that collectively comprise one or more streamable data objects; and

a server computer operably connected to a client computer via a network, the server computer transmitting the data objects to the server computer, the server computer periodically determining, based upon the load of the server computer, whether to aggregate one or more of the data packets into an aggregated data packet having a size, wherein the size of the aggregated data packet exceeds a minimum threshold size ~~without exceeding a maximum threshold size~~, and

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wherein the minimum threshold size or the maximum threshold size is dependent on the load of the server computer.

29. (Previously Presented) The system of Claim 28, wherein determining the server load comprises comparing a number of data packets that are overdue to a total number of data packets

30. (Previously Presented) The system of Claim 28, wherein determining the server load comprises comparing a number of network events processed by a server program that is executing on the server computer due to exceeding a time out threshold to a total number of network events that the server program processes.

31. (Original) The system of Claim 30, wherein the network events are selected from the group comprising: a play command, a pause command, a seek command, a ping command, and a re-send command.

32. (Previously Presented) The system of Claim 28, wherein the server load is based at least in part upon an actual transmission rate between the server computer and a client computer.

33. (Previously Presented) The method of Claim 28, wherein the data packets are not aggregated larger than the size of a maximum transmission unit for any intermediary network device that is in the transmission path between the server computer and a client computer.

34. Cancelled.

35. (Previously Presented) The method of Claim 28, wherein the size of the minimum threshold relates to a quality of presentation of the plurality of data packets and the maximum threshold relates to a maximum transmission unit.

36. Cancelled.

37. (Previously Presented) The system of Claim 28, wherein the minimum threshold is about 200 bytes and wherein the maximum threshold is about 300 bytes.

38. (Previously Presented) The system of Claim 28, wherein the minimum threshold is about 700 bytes and wherein the maximum threshold is about 1000 bytes.

39. (Previously Presented) The system of Claim 28, wherein the minimum threshold is about 1000 bytes and wherein the maximum threshold is about 1350 bytes.

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40. (Currently Amended) A method of aggregating data packets, the method comprising:

determining, based upon the load of a server computer, whether to aggregate one or more of the data packets into an aggregated data packet with a size, wherein the size of the aggregated data packet exceeds a minimum threshold size ~~without exceeding a maximum threshold size~~, and wherein the minimum threshold size ~~or the maximum threshold size~~ is related to the load of the server computer; and

transmitting the aggregated data packet to a client computer.

41. (Previously Presented) The method of Claim 40, wherein the one or more data packets are not aggregated in an aggregated data packet larger than the size of a maximum transmission unit for any intermediary network device that is in the transmission path between the server computer and the client computer.

42. (Previously Presented) The method of Claim 40, wherein determining the server load comprises comparing a number of data packets that are overdue to a total number of data packets.

43. (Previously Presented) The method of Claim 40, wherein determining the server load comprises comparing a number of network events processed by a server program that is executing on the server computer due to exceeding a time out threshold to a total number of network events that the server program processes.

44. (Previously Presented) The method of Claim 43, wherein the network events are selected from the group comprising: a play command, a pause command, a seek command, a ping command, and a re-send command.

45. (Previously Presented) The method of Claim 40, wherein the server load is based at least in part upon an actual transmission rate between the server computer and the client computer.

46. Cancelled.

47. Cancelled.

48. (Currently Amended) The method of Claim 40, wherein the minimum threshold is about 200 bytes ~~and wherein the maximum threshold is about 300 bytes~~.

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49. (Currently Amended) The method of Claim 40, wherein the minimum threshold is about 700 bytes ~~and wherein the maximum threshold is about 1000 bytes.~~

50. (Currently Amended) The method of Claim 40, wherein the minimum threshold is about 1000 bytes ~~and wherein the maximum threshold is about 1350 bytes.~~

51. (Currently Amended) The method of Claim 40, wherein the size of the minimum threshold relates to a quality of presentation of the data packets ~~and the maximum threshold relates to a maximum transmission unit.~~

52. Cancelled.

53. Cancelled.

54. Cancelled.

55. (Currently Amended) A method of generating data packets, the method comprising:

determining, in a server device, a maximum transmission unit value of an intermediary network device being disposed on the network between a client device and the server device, the maximum transmission unit value identifying a largest packet size that is capable of being transported by the intermediary network device via the network; and

generating a data packet with a size of the data packet size being limited to the maximum transmission unit value and exceeding a minimum threshold size, wherein the minimum threshold size is related to the load of the server device.

56. (Previously Presented) The method of Claim 55, wherein the size of the data packet is not larger than the size of a maximum transmission unit for any intermediary network device that is in the transmission path between the server device and the client device.

57. (Previously Presented) The method of Claim 55, additionally comprising transmitting the generated packet from the server device to the client device via the Internet.

58. Cancelled.

59. Cancelled.

60. Cancelled.

61. (Previously Presented) A computer readable media storing instructions that when executed performs the steps comprising:

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determining, in a server device, a maximum transmission unit value of an intermediary network device being disposed in a network between a client device and the server device, the maximum transmission unit value identifying a largest packet size that is capable of being transported by the intermediary network device via the network; and

generating a data packet with a minimum packet size set at least in part as a function of the load of the server device ~~and limited to the maximum transmission unit value~~.

62. (Previously Presented) The computer readable media of Claim 61, wherein the size of the data packet is not larger than the size of a maximum transmission unit for any intermediary network device that is in the transmission path between the server device and the client device.

63. (Previously Presented) The computer readable media of Claim 61, additionally comprising transmitting the packet from the server device to the client device via the Internet.

64. (Currently Amended) A method comprising:

determining, in a transmitting device, a maximum transmission unit value of an intermediary network device being disposed on a network between a receiving device and the transmitting device, the maximum transmission unit value identifying a largest packet size that is transported by the intermediary network device via the network;

generating a data packet with a minimum size set at least in part as a function of load of the server device ~~and limited to the maximum transmission unit value~~; and

transmitting the data packet to the receiving device via at least in part the intermediary device.

65. (Previously Presented) The method of Claim 64, wherein the size of the data packet is not larger than the size of a maximum transmission unit for any intermediary network device that is in the transmission path between the server device and the client device.

66. (Previously Presented) The method of Claim 64, wherein the data packet contains video information.

67. (Currently Amended) A method comprising:

determining, in a transmitting device, a maximum transmission unit value of an intermediary network device disposed on a network between a receiving device and the

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transmitting device, the maximum transmission unit value identifying a largest packet size that is capable of being transported by the intermediary network device;

aggregating data packets to ensure a size of the aggregated data packets exceed a minimum threshold value set at least in part as a function of load of the transmitting device and are limited to the maximum transmission unit value; and

transmitting the aggregated data packets to the receiving device via at least in part the intermediary device.

68. (Previously Presented) The method of Claim 67, wherein the size of the data packet is not larger than a maximum transmission unit size for any intermediary network device that is in a transmission path between the transmitting device and the receiving device.

69. (Previously Presented) The method of Claim 67, wherein the data packet contains video information.

70. (Previously Presented) The method of Claim 40, wherein the server load is a function of a number of computers that have requested a streamable data object.

71. (Previously Presented) The method of Claim 40, wherein the server load is a function of a number of computers that are behind in a scheduled delivery time.

72. (Previously Presented) The method of Claim 40, wherein minimum threshold is either about 200, 700, or 1000 bytes.

73. (Previously Presented) A method aggregating a plurality of data packets on a server computer, the method comprising:

determining a server load of the server computer; and

in response to determining the server load, accumulating the plurality of data packets into an aggregated data packet until a size of the aggregated data packet exceeds a minimum threshold size, and wherein the minimum threshold size is related to the server load.

74. (Previously Presented) The method of Claim 73, wherein the server load is a function of a number of computers that have requested a streamable data object.

75. (Previously Presented) The method of Claim 73, wherein the server load is a function of a number of computers that are behind in a scheduled delivery time.

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76. (Previously Presented) The method of Claim 73, wherein the minimum threshold size increases as the server load increases.

77. (New) The method of Claim 1, additionally comprising transmitting the aggregated data packets.

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SUMMARY OF INTERVIEW

Applicant's attorney wishes to express his appreciation to the Examiner for the courtesy of conducting a telephonic interview for this application on July 27, 2004 and August 6, 2004. During these interviews, the Applicant's attorney and the Examiner discussed proposed claim amendments that if entered would overcome the current cited art. Applicant submits that he has amended the claims in conformance with this discussion, and these claims are now in condition for allowance.